

Final

FOCUS REPORT
New Chemicals Program

PART I: BACKGROUND

Written By: KMB

FOCUS DATE: 11/16/2006

FOCUS CHAIR: F. Chow

COMPANY: Johnson Matthey Catalysts

CASE NUMBER(S): L07-0045 through

and

PART II: SAT RESULTS

HEALTH: 1-2

ECOTOX: 2

OCCUPATIONAL
EXPOSURE: 1B

CONSUMER
EXPOSURE:

ENVIRONMENTAL
RELEASES:

Additional SAT
Information:

PART III: OTHER FACTORS

a. PRODUCTION VOLUME:

b. PROD VOL OTHER:

Binding Option Marked

Assessed at Production Volume

c. USE:

- 1) VERTEE AT35 is a thixotropic agent for water based paints
- 2) VARTEC XL 930 is a cross linker for aqueous polymers used in oilfield applications, drilling mods fracing fluids

d. REGULATORY HISTORY: NRC

e. TEST DATA:

f. IMPORTED



MANUFACTURED



BOTH



g. MSDS:



h. CATEGORY:

CATEGORY 2:

PART IV: SUMMARY OF SAT ASSESSMENT

CASE NUMBER: L07-0045

FATE: Estimations for hydrolysis product

☐ MW

log Kow = -1.22 (E)

log Koc = 1.00 (E)

log Fish BCF = 0.50 (E)

FATE: Estimations for hydrolysis product

log Kow = -0.72 (M)

log Koc = 0.00 (E)

log Fish BCF = 0.50 (E)

FATE: Estimations for hydrolysis product

log Kow = -3.39 (E)

log Koc = 1.00 (E)

log Fish BCF = 0.50 (E)

PMN Substance: Liquid with MP < 20 °C (E)

S = Reacts

Hydrolysis Half-life = hr

VP < 1.0E-6 torr at 25 °C (E)

BP > 400 °C (E)

H < 1.00E-8 (E)

POTW removal (%) = PMN 90 via hydrolysis, then

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□□□ [redacted] via biodeg

Time for complete ult. aerobic biodeg = [redacted] da-wk [redacted] da; [redacted] da-wk

Sorption to soils/sediments = low - moderate

PBT Potential [redacted] P1B1T1; [redacted] P1B1T1; [redacted] P1B1T1; [redacted] P3B1T1

HEALTH: Absorption of low molecular weight fraction is expected to be poor with reaction all routes (pchem). Concern for mutagenicity based on the [redacted] hydrolysis product; liver toxicity based on submitted test data. Concerns for the [redacted] hydrolysis product are based on [redacted] developmental toxicity [mouse gavage effects at 450 mg/kg/d (only dose tested), rat dermal NOEL = 500 mg/kg/d, and rat aerosol NOEL = 9.7 mg/kg/d]; kidney toxicity [LOEL = 5.7 mg/kg/d]; blood toxicity [rat diet 13-wk LOEL = 14 mg/kg/d and rat dermal LOEL = 32 mg/kg/d]; liver toxicity [mouse diet 13-wk LOEL = 104 mg/kg/d and mouse dermal 13-wk LOEL = 80 mg/kg/d] and uncertain concern for oncogenicity.

□ Test data: (-) Salmonella with and without activation; (-) E. coli with and without activation; (-) for chromosome aberrations in CHO cells with and without activation; (-) in a mouse lymphoma assay; rat oral LD0 = 5000 mg/kg; rat dermal LD0 = 2000 mg/kg; rat 28-day oral NOEL = 250 mg/kg, changes in blood clinical chemistry and effects to the liver; slight eye irritation in rabbits; no skin irritation in rabbits; no skin sensitization in guinea pigs using the Magnusson-Kligman assay; rat oral reproductive toxicity NOEL = 300 mg/kg (parental toxicity, changes in blood clinical chemistry and effects to the liver); 1200 mg/kg

ECOTOX: Predicted (P) and measured (M) toxicity values in mg/L (ppm) are:

fish 96-h LC50 = 780.0 P
daphnid 48-h LC50 = 120.0 P
daphnid 48-h LC50 = 5800.0 P S,N [redacted] analog
green algal 96-h EC50 = 210.0 P
ss 3-h EC50 O2 > 1000.0 M S,N
fish (RT) NOEC r = 5.0 M SR,N [redacted]
fish chronic value = 78.0 P
daphnid ChV = 13.0 P
daphnid ChV < 6.2 M SR,N H?
daphnid ChV = 1.0 P D21EC50=6.2/5
algal ChV = 52.0 P
ss 3-h ChV O2 > 1000.0 M S,N
ss 3-h NOEC O2 = 1000.0 M S,N

Predictions are based on SARs for Ti with MW adjustment ([redacted] SAR chemical class = [redacted] S > 1 g/L at 20 C (P); hydrolysis of the Ti esters back to starting reactants [redacted] S > [redacted] with half-life = hours (P); pH7; effective concentrations based on 100% active ingredients and mean measured concentrations of total Ti; hardness <150.0 mg/L as CaCO3; and TOC <2.0 mg/L;

moderate concern for toxicity based on test data;

assessment factor = 10.0

concern concentration = 0.100 mg/L (ppm)

PART V: RAD RISK RATIONALE: HUMAN HEALTH

PART VI: SUMMARY OF EXPOSURE/RELEASE

Use 1:

[redacted]

[redacted]

[REDACTED]

Fate: Releases to Water (75% Removal Efficiency)

SWC: [REDACTED]

DW: [REDACTED]

Fish: L [REDACTED]

>COC (100 ppb) [REDACTED]

Use 2:

[REDACTED]

Inhal: Negligible

[REDACTED]

[REDACTED]

Fate: Releases to Water (75% Removal Efficiency)

SWC: [REDACTED] b

DW: [REDACTED]

Fish: [REDACTED]

>COC (100 ppb) [REDACTED]

PART VII: FOCUS DECISION AND RATIONALE

DISPOSITION: LVE Grant

RATIONALE: L07-0045 was granted. Potential risks to human health were addressed by adequate dermal protection and negligible inhalation exposures expected. Potential risks to the environment were low based on no significant exceedance of the 100 ppb COC.

PART VIII: CCD DISPOSITION / DD

CCD: